Connecting to DC Power

To connect the Cisco ME switch to a DC-input power source, follow these steps:

1. Preparing for Installation, page C-1
2. Grounding the Switch, page C-2
3. Wiring the DC-Input Power Source, page C-5

Warning **This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock and key, or other means of security.** Statement 1017

Warning **Before performing any of the following procedures, ensure that power is removed from the DC circuit.** Statement 1003

Caution Installation of the equipment must comply with local and national electrical codes.

Note We recommend that you use 18 AWG copper wiring for Network Equipment Building Systems (NEBS) installation. This guideline follows the standard guidelines for DC power wiring in the Central Office.

Note You can use the grounding lug to attach a wrist strap for ESD protection during servicing.

Preparing for Installation

Locate the DC terminal block plug, the ground lug, and the two number-10-32 screws in the DC-switch kit.

Obtain these necessary tools and equipment:

- Ratcheting torque screwdriver with a Phillips head that exerts up to 15 pound-force inches (lbf-in.) of pressure.
- Panduit crimping tool with optional controlled cycle mechanism (model CT-700, CT-720, CT-920, CT-920CH, CT-930, or CT-940CH).

- 6-gauge copper ground wire (insulated or noninsulated).
- Four leads of copper wire. The DC terminal block (Figure C-11) 12-28 AWG copper wire.

Note We recommend that you use 18 AWG copper wiring for Network Equipment Building Systems (NEBS) installations. This guideline follows the standard guidelines for DC power wiring in the Central Office.

- Wire-stripping tools.

Grounding the Switch

Warning **This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.** Statement 39

Warning **When installing the unit, always make the ground connection first and disconnect it last.** Statement 42

Caution To make sure that the equipment is reliably connected to earth ground, follow the grounding procedure instructions, and use a UL-listed lug suitable for number-6 AWG wire and two number-10-32 ground-lug screws.

Preparing the Ground Wire

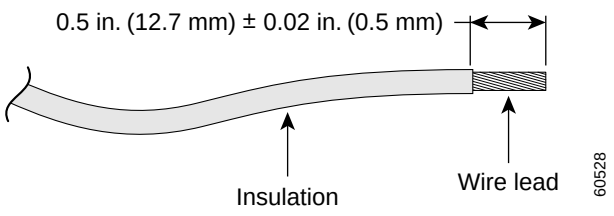
Before you ground the switch to earth ground, you must prepare the ground wire. Follow these steps. Make sure to follow any grounding requirements at your site.

Step 1 Locate the ground lug and the two number-10-32 screws. A ground lug and screws are located both on the front panel and on the rear panel of the switch. Only one ground connection is required.

Use a standard Phillips screwdriver or a ratcheting torque screwdriver with a Phillips head. Set the screws and the ground lug aside.

Step 2 If your ground wire is insulated, use a wire stripping tool to strip the 6-gauge ground wire to 0.5 inch (12.7 millimeter [mm]) 0.02 inch (0.5 mm) as shown in Figure C-1.

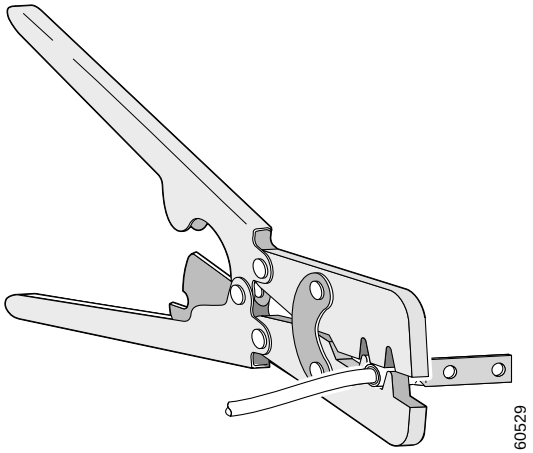
Figure C-1 Stripping the Ground Wire



Step 3 Slide the open end of the ground lug over the exposed area of the 6-gauge wire.

Step 4 Using a Panduit crimping tool, crimp the ground lug to the 6-gauge wire.

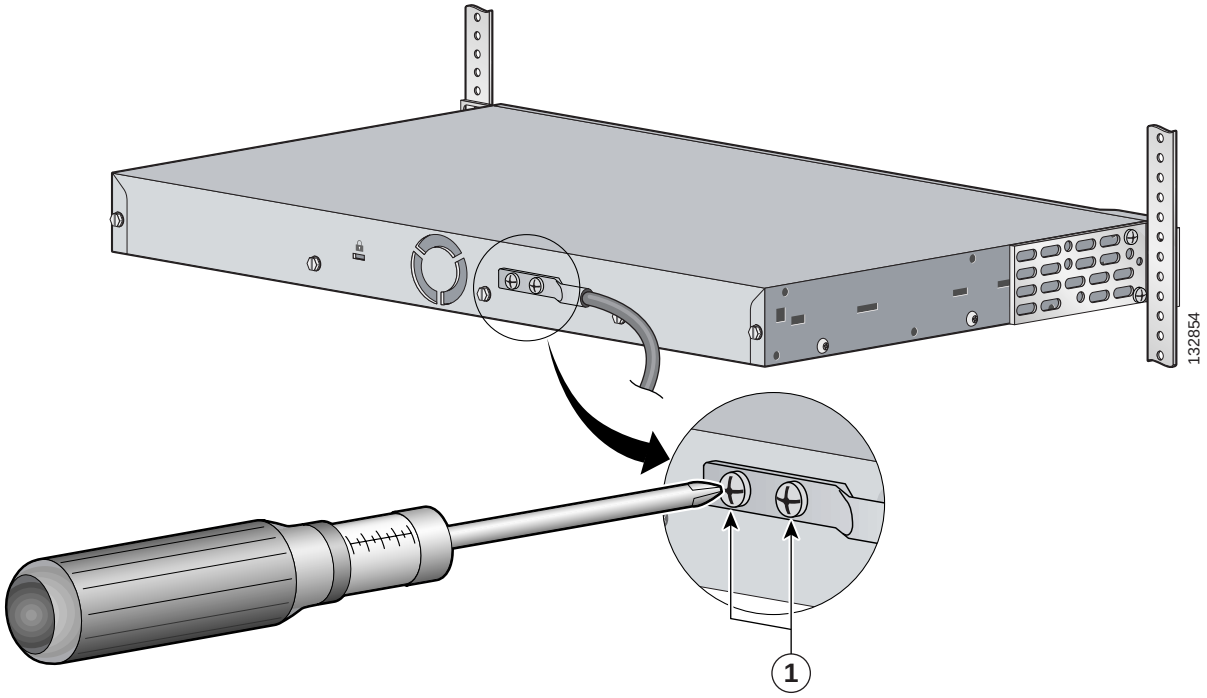
Figure C-2 Crimping the Ground Lug



Step 5 Use the two number-10-32 screws to attach the ground lug and wire assembly to the rear panel of the switch.

Step 6 Using a ratcheting torque screwdriver, torque each ground-lug screw to 15 lbf-in. (240 ounce-force inches [ozf-in.]). Figure C-3 shows how to torque the ground screws on a Cisco ME DC switch.

Figure C-3 Torquing Ground-Lug Screws

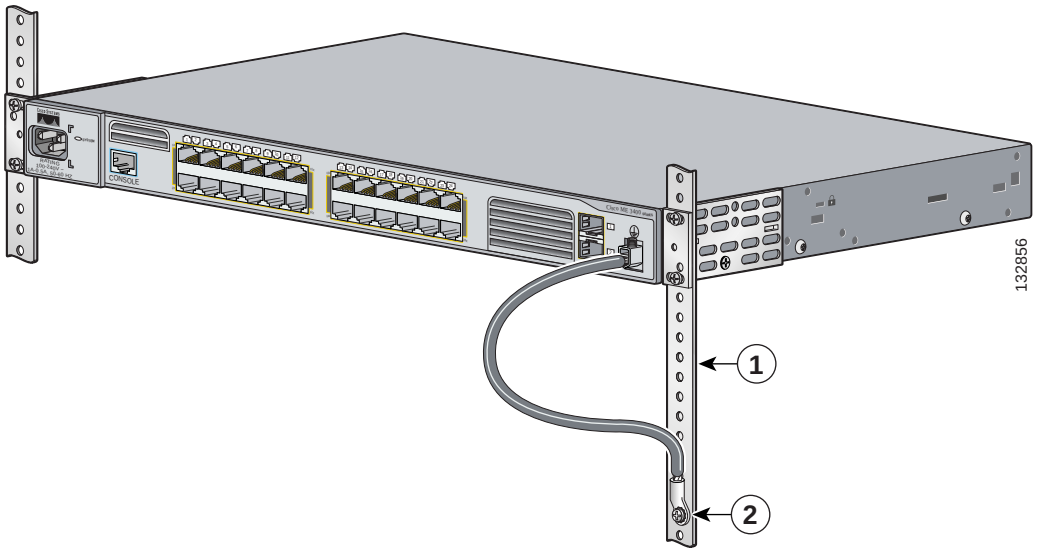


1	Torque to 15 lbf-in.

Connecting the Grounding Wire to Earth Ground

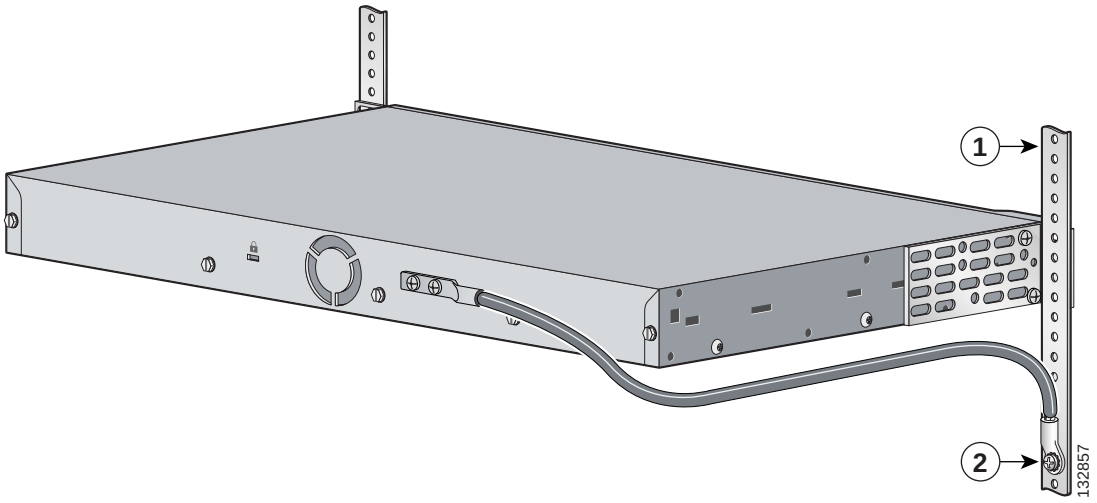
Next you must connect the other end of the grounding wire to an appropriate grounding point at your site or to the telco rack. You can connect the grounding wire to either the front panel ground connector (see Figure C-4) or the rear panel ground connector (see Figure C-5), but not to both.

Figure C-4 Connecting the Grounding Wire to the Rack (Grounding) from the Front-Panel Ground Connector



1	Telco rack	2	Grounding wire

Figure C-5 Connecting the Grounding Wire to the Rack (Grounding) from the Rear-Panel Ground Connector



1	Telco rack	2	Grounding wire

Complete these steps:

Step 1 Remove all paint or oxidation from the rack at the point of the grounding connection.

Step 2 Use a 3/16-inch flat-head screwdriver to loosen the grounding screw on the rack.

Step 3 Connect the wire to a ring lug (large enough for the rack screw to fit through).

Step 4 Use a 3/16-inch flat-head screwdriver and the screw to attach the ring lug to the rack.

Step 5 Tighten the grounding screw on the rack over the ring lug.

Repeat these steps for each switch being installed.

Wiring the DC-Input Power Source

Cisco ME-3400-24TS Switches

Warning **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than:**
5 A Statement 1005

Cisco ME-3400G-12CS Switches

Warning **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than:**
6 A Statement 1005

All Cisco ME-3400 Switches

Warning **A readily accessible two-poled disconnect device must be incorporated in the fixed wiring.**
Statement 1022

Warning **Only trained and qualified personnel should be allowed to install or replace this equipment.**
Statement 1030

Caution You must connect the Cisco ME DC switch only to a DC-input power source that has an input supply voltage from –36 to –72 VDC. If the supply voltage is not in this range, the switch might not operate properly or might be damaged.

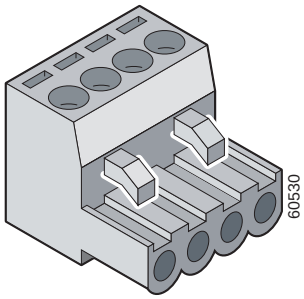
Caution The Cisco ME-3400G-12CS-DC switch has two DC power supplies. They are labelled PS1 and PS2, and each power supply has an A and B input. When connecting power to both PS 1 and PS 2, connect only a single input (A or B) to each power supply).

To wire the switch to a DC-input power source, follow these steps:

Step 1 To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

Step 2 Locate the terminal block plug (see Figure C-6).

Figure C-6 Terminal Block Plug



Step 3 Identify the positive and negative feed positions for the terminal block connection. The wiring sequence is positive to positive and negative to negative for both the A and the B feed wires.

The front panel of the switch identifies the positive and negative positions for both the A and B feed wires (See Figure C-7.)

Figure C-7 Positive and Negative Positions

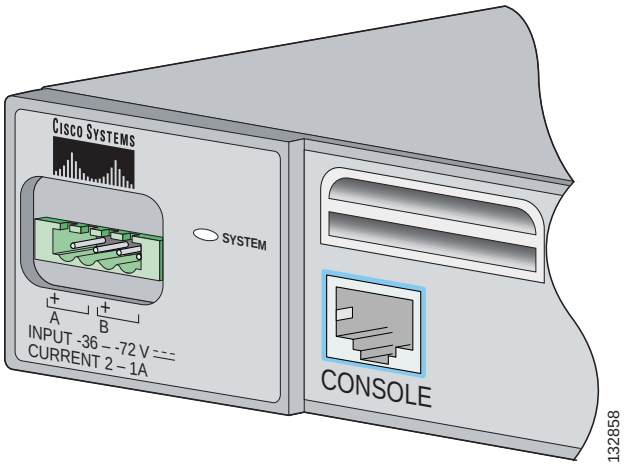
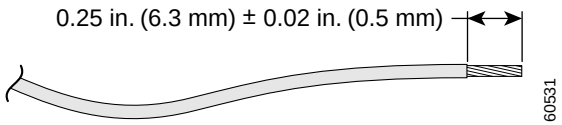


Figure C-7 shows a Cisco ME-3400-24TS-DC. The ME-3400G-12CS-DC switch has two DC power supplies (labelled PS 1 and PS 2). Each power supply has two inputs (labelled A and B). When connecting an input to both PS 1 and PS 2, only a single input (A or B) should be connected to each power supply.

Step 4 Using an 18-gauge wire-stripping tool, strip each of the four wires coming from the DC-input power source to 0.27 inch (6.6 mm) 0.02 inch (0.5 mm). Do not strip more than 0.29 inch (7.4 mm) of insulation from the wire. Stripping more than the recommended amount of wire can leave exposed wire from the terminal block plug after installation.

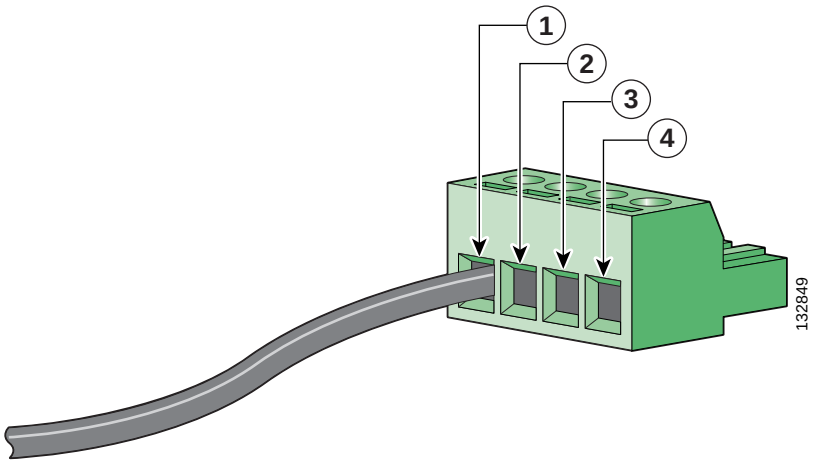
Figure C-8 Stripping the DC-Input Power Source Wire



Step 5 Insert the exposed wire of one of the four DC-input power source wires into the terminal block plug, as shown in Figure C-9. Make sure that you cannot see any wire lead. Only wire *with insulation* should extend from the terminal block.

Warning **An exposed wire lead from a DC-input power source can conduct harmful levels of electricity. Be sure that no exposed portion of the DC-input power source wire extends from the terminal block plug.** Statement 122

Figure C-9 Inserting Wires in the Terminal Block Plug

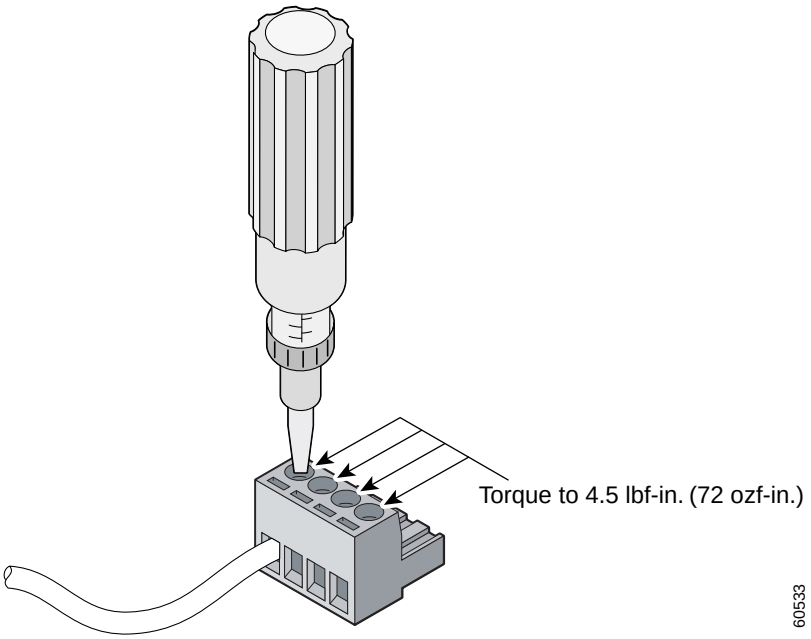


1	Return (positive) Feed A	**3**	Return (positive) Feed B
2	Supply (negative) Feed A	**4**	Supply (negative) Feed B

Step 6 Use a ratcheting torque screwdriver to torque the terminal block captive screw (above the installed wire lead) to 4.5 lbf-in. (72 ozf-in.). (See Figure C-10.)

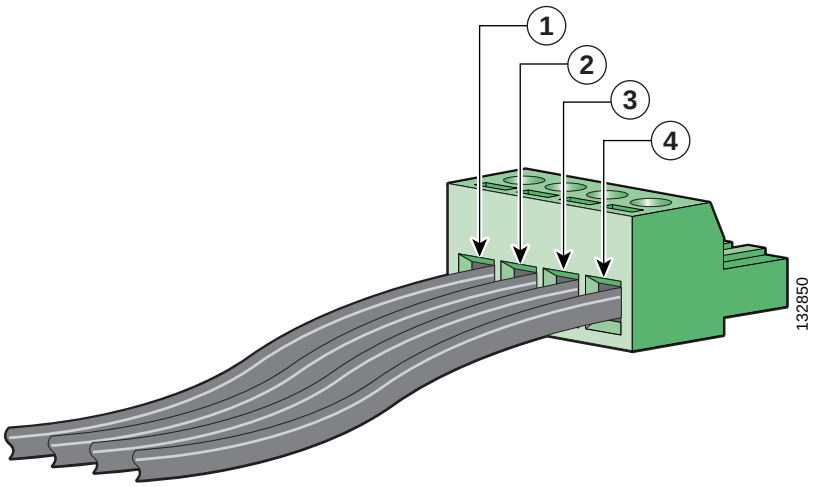
Caution Do not overtorque the terminal-block captive screws. The recommended maximum torque is 4.5 lbf-in.

Figure C-10 Torquing the Terminal-Block Captive Screws



Step 7 Repeat Steps 4 and 5 for the remaining three DC-input power source wires. Figure C-11 shows the completed wiring of a terminal block plug.

Figure C-11 Completed Wiring of Terminal Block Plug

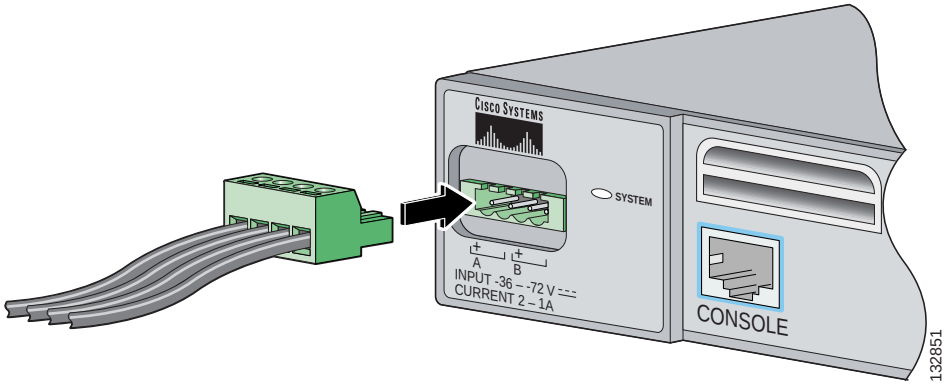


1	Return (positive) Feed A	**3**	Return (positive) Feed B
2	Supply (negative) Feed A	**4**	Supply (negative) Feed B

Step 8 Insert the terminal block plug in the terminal block header on the front panel of the switch. (See Figure C-12).

Caution Secure the wires coming in from the terminal block so that they cannot be disturbed by casual contact. For example, use tie wraps to secure the wires to the rack.

Figure C-12 Inserting the Terminal Block in the Block Header



Step 9 Remove the tape from the circuit-breaker switch handle, and move the circuit-breaker handle to the on position.